

PERINATAL LESSONS FROM THE PAST

John Braxton Hicks (1823–97) and painless uterine contractions

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John Braxton Hicks was born in Rye, Sussex, in 1823. His father, Edward Hicks, was a Justice of the Peace and a banker from Lymington in Hampshire. After a private education near Winchester, John was apprenticed to Dr Fluder of Lymington. At the age of 18 he entered Guy's Hospital Medical School, where he won many prizes and honours, as well as being a successful oarsman. Graduating MB from the University of London in 1847, he went on to obtain an MD in 1851.

At first, wishing to marry, he entered general practice in Tottenham, but in 1858 was recruited by Guy's Hospital as assistant obstetric physician. The following year he became a member of the Royal College of Physicians of London (Fellow, 1866). He also held diplomas from the Royal College of Surgeons and the Society of Apothecaries. In 1868 he was promoted full obstetric physician at Guy's and in 1883 consulting physician. He also held appointments at St Mary's Hospital, the Royal Maternity Charity, and the Royal Infirmary. (fig 1)¹

Braxton Hicks had a natural aptitude for scientific research. Enthusiastic, inventive, intelligent and hard working, he also paid meticulous attention to detail. Recognised as a pioneer in midwifery, with 133 medical publications to his name, he is best known for being the first physician to describe bipolar version of the fetus² and the painless rhythmic contractions of the uterus that occur throughout pregnancy.³

On bipolar version of the fetus

"The method I have found successful, and very easy of application, is conducted thus:—We will suppose the simplest condition, a case where the uterus is passive, membranes unbroken, the liquor amnii plentiful, the os uteri expanded sufficiently to detect the presentation, which is cephalic ... the left hand, with the usual precautions, into the vagina, so far as to fairly touch the foetal head, even should it recede an inch. Having passed one or two fingers... within the cervix, and resting them on the head, place the *right* hand on the *left* side of the breech at the fundus uteri ... Employ gentle pressure and slight impulsive movements on the fundus towards the right side, and simultaneously on the head towards the left iliac fossa. In a very



Figure 1 John Braxton Hicks in 1872.

short time it will be found that the head is rising and at the same time the breech is descending. The shoulder is now felt by the hand in place of the head ... it in like manner is pushed to the left, and at the same time the breech is depressed to the right iliac fossa. The foetus is now transverse; the knee will be opposite the os, and, the membranes being ruptured, it can be seized ... and brought into the vagina ... From the foregoing remarks, it will be readily seen that it can be applied at the earliest period a malpresentation is detectable. As soon as the finger can enter the cervix, so soon can version be performed, converting all forms into breech presentations. In malpositions of the head, perhaps it may be found capable of improving its position without having recourse to complete podalic version; in puerperal convulsions, diminishing the great risk in such cases from the addition of the hand to the contents of the uterus; in narrow brims when version is decided upon, it will save the pressure upon the os uteri against the projecting parts of the

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brim ... I shall for the present confine myself to the advantages this method gives us in placenta praevia - at least, in every form of partial insertion: ... Turn, and if you employ the child as a plug the danger is over. Then wait for the pains, rally the powers in the interval and let nature, gently assisted, complete the delivery."

On Braxton Hicks' contractions

"It was a source of difficulty to the older obstetricians to explain how that, at a certain time, namely, at the full period of pregnancy, the uterus, passive up till then, began all at once to acquire a new power, that of contracting; forgetful that, long before the full period had arrived, the uterus has the power to expel the foetus, and under mental excitement or local stimulation, attempted to do so frequently. But after many years' constant observation, I have ascertained it to be a fact that the uterus possesses the power and habit of spontaneously contracting and relaxing from a very early period of pregnancy, as early, indeed, as it is possible to recognise the difference of consistence—that is, from about the third month ...

If, then, the uterus be examined without friction or any pressure beyond that necessary for full contact of the hand continuously over a period of from five to twenty minutes, it will be noticed to become firm if relaxed at first, and more or less flaccid if it be firm at first. It is seldom that so long an interval occurs as that of twenty minutes; most frequently it occurs every five or ten minutes, sometimes even twice in five minutes ... If we more carefully investigate the uterus after the fourth month of pregnancy we shall further notice the phenomenon, which has been well described by authors, that during the period of relaxation the foetus (if one be there) is generally to be detected by external palpation or by external ballotment ... But it is interesting also to notice, during the gradual increase of solidity, how the presence of the foetus, quite distinct before, slowly becomes more indistinct, whilst the outline of the uterus becomes more clearly marked, till instead of the foetus we find a hard globular swelling, which we could at the time we recognised the foetus, scarcely, if at all, feel ... The constancy with which these contractions of the uterus have always occurred to me leaves no doubt on my mind but that it is a natural condition of pregnancy irrespective of external irritation. In a general way the pregnant woman is not conscious of these contractions of the uterus ... But occasionally it happens that the uterus is more than usually sensitive, and that the contractions are accompanied by pain ...

Let me next consider the effects or uses of these contractions. It is possible that there are others, but two appear to be tolerably clear. In the first place, it will provide for the frequent movement of the blood in the uter-

ine sinus and decidual processes, for as the sinuses of the uterus are so much larger than the supplying arteries, the current is more slow in them than in the ordinary systemic veins. The contraction of the walls through which the sinuses meander tends to send the current onward, and to act somewhat as a supplementary heart... In the second place, the uterine action adapts the position of the foetus to the form of the uterus ... There can be little doubt but the more recent opinion is the correct one, namely, that the motions of the foetus combine with the preparatory pains of labour to secure the head to present. For it has been also well shown that the head of the foetus when folded up in utero is not really the larger end, but that the body with the limbs forms the greater portion; and as the uterus is larger at its fundal end than below, the foetus folded up corresponds to the shape of the uterus only when the head presents at the os.

For the last six years and upwards I have made use of the intermittent action of the uterus as the principal symptom upon which I have depended in the diagnosis of pregnancy... But not only are we assisted in our diagnosis of pregnancy from other uterine tumours, but still further are we helped to distinguish uterine from non-uterine enlargements ..."

Braxton Hicks has been described as an amiable man with a cheerful expression, and bright piercing eyes. A careful, sympathetic physician who showed great consideration for the welfare of his patients, he was also extremely erudite. Since childhood he had been fascinated by natural science and amassed a superb collection of botanical specimens. He presented many papers to the Linnaean and Royal Societies on subjects as diverse as lichen mosses, algae, and earthworms. He also had a fine collection of Wedgwood china and was for several years a vestryman in the Parish of St George, Hanover Square. Among the many honours that came his way were: the fellowship of the Linnaean Society (1852) and of the Royal Society (1861); honorary fellowships of the Obstetric Societies of Berlin, Edinburgh, Philadelphia and London, and of the Gynecological Society of Boston and the American Gynecological Society. He was President of the Obstetrical Society of London in 1871–2 and of the Hunterian Society in 1879.

On retiring from medical practice, Braxton Hicks returned to the New Forest and his home, the Brackens, in Lymington. There he died in 1897, at the age of 74, after a three month illness brought on by influenza and the development of diabetes and heart block.

1 Obituary, John Braxton Hicks. *Lancet* 1897;ii:692.

2 Hicks JB. On a new method of version in abnormal labour. *Lancet* 1860;ii:28–30.

3 Hicks JB. On the contractions of the uterus throughout pregnancy: their physiological effects and their value in the diagnosis of pregnancy. *Transactions of the Obstetrical Society of London* 1871;13:216–31.